

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/33628

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04R 17/00; H01L 41/08
US CL : 367/142, 159, 162, 169, 176; 310/337

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 367/141, 142, 159, 162, 169, 176; 310/337

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
East text, Japio, Derwent, PG-Pubs, USPAT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2,812,452 A (Harris) 5 November 1957 (05-11-1957), see Fig. 2	1-17
A	US 6,002,648 A (AMBS) 14 December 1999 (14.12.1999), see Fig. 2 and col. 3, lines 12+	1-17
A	US 6,148,952 A (JOHNSTON et al) 21 November 2000, (21.11.2000), see Fig. 3	1-17
A	US 5,103,130 A (ROLT et al) 07 April 1992 (07.04.1992), see Figs. 3, 4 and 8	1-17
A	US 6,781,288 A (OSBORN) 24 August 2004 (24.08.2004), see Fig. 3	1-17
A	US 6,069,845 A (AMBS) 30 May 2000 (30.05.2000), see Fig. 6	1-17
A	US 4,651,044 A (KOMPANEK) 17 May 1987 (17.05.1987), see Figs. 1, 3 and 4	1-17
A	US 5,220,538 A (FLANAGAN et al) 15 June 1993 (15.06.1993), see Figs. 2 and 2A and col. 4, lines 26-62.	1-17

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search

20 April 2005 (20.04.2005)

Date of mailing of the international search report

03 MAY 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Ian J. Lobo 

Telephone No. (571) 272-6974

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-17, drawn to an underwater acoustic projector including a metallic liner.

Group II, claim(s) 18-20, drawn to an underwater acoustic projector where the outer shell includes a plurality of wound resin impregnated graphite strips.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature (metallic liner) of Group I, specifically the independent claims, do not relate to the special technical feature (resin impregnated graphite strips) of Group II, specifically independent claim 18.